

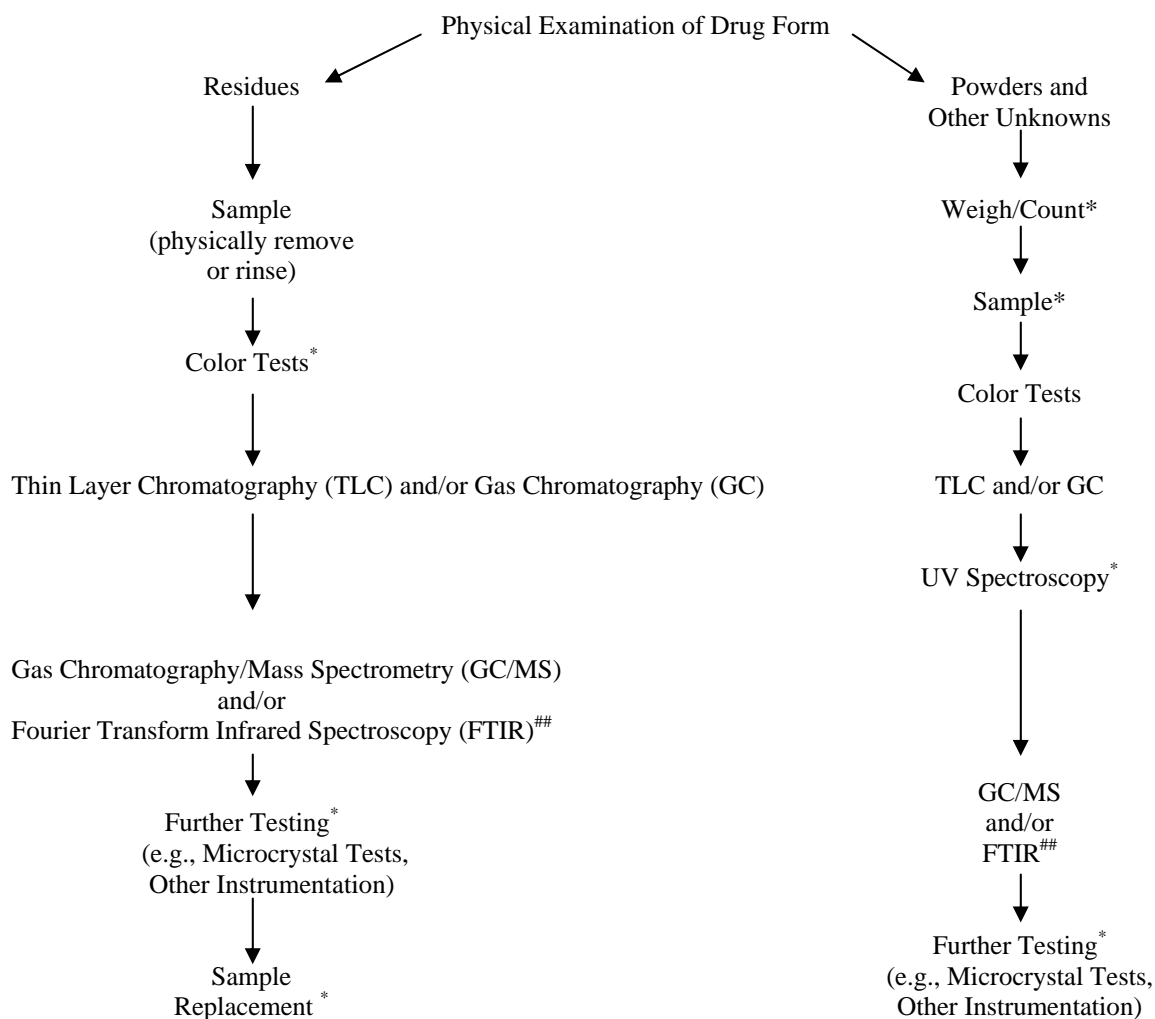
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CONTROLLED SUBSTANCES PROCEDURES MANUAL	Effective Date: 6-July-2005

2 ANALYTICAL SCHEMES

2.1 Introduction

There are three general analytical schemes to be used for controlled substances. At various times, a drug chemist will encounter drug substances for analysis that require specialized analysis. For these cases the flowchart for general unknowns can be followed and any modifications will be approved by the supervisor or section chief. It should be noted that sample size or other circumstances may require a rearrangement or modification of one or more steps.

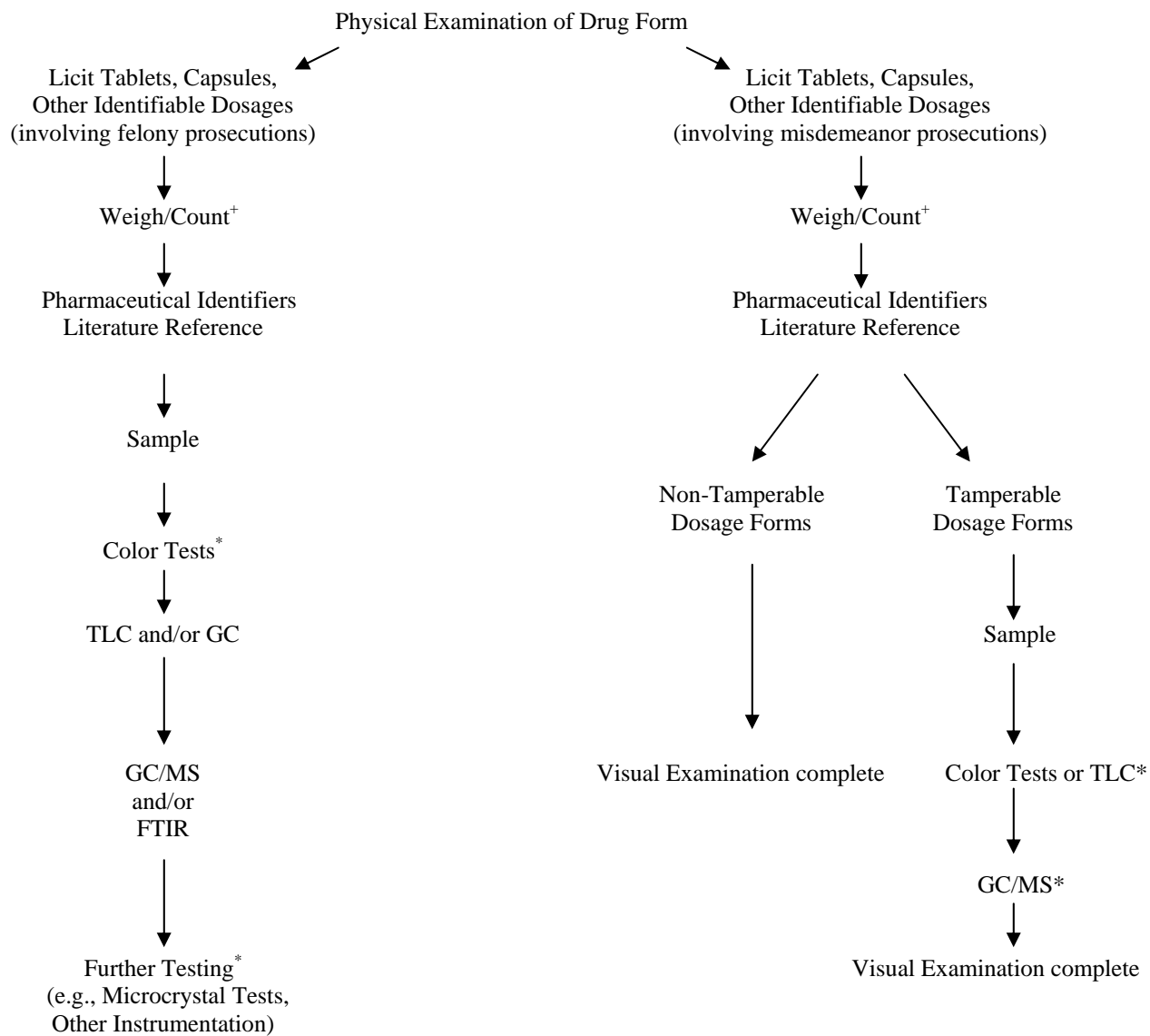
2.2 General Unknowns/Powders/Illicit Tablets



* As appropriate

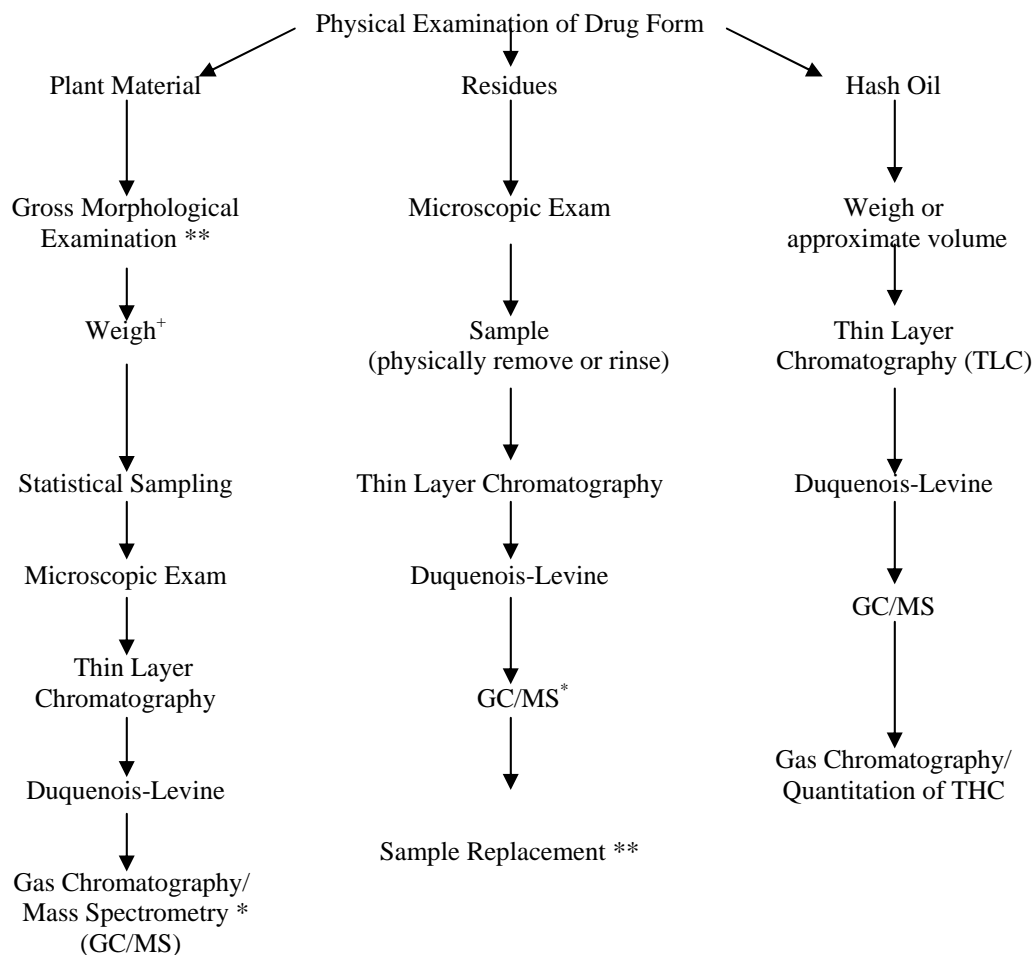
Or other appropriate definitive structural elucidation method

2.3 Tablets and Capsules



⁺ As appropriate (dosage forms not generally weighed)

^{*} As Needed

2.4 Marijuana

⁺ Gross weight suitable if less than ½ ounce with innermost packaging

* Required if microscopic characteristics are absent or if another test is inconclusive (see section 6.6.1)

** As needed

2.5 Pharmaceutical Identifiers

2.5.1 Check the *Physician's Desk Reference*, *Poison Control*, *DEA Logo Index*, *Ident-a-drug*, *Drug ID Bible* or other similar sources for information relating to inscriptions on tablets and capsules, size, color and shape. Two unrelated references are recommended for unfamiliar tablets if no further analysis will be conducted.

2.6 Color Tests

2.6.1 If the size of the sample is sufficient, perform the appropriate color tests required to provide an indication of any compounds present.

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<p>2.6.2 Check the available literature (e.g., Clarke) for the interpretation of results of these and/or ask other chemists, as necessary.</p> <p>2.7 Chromatography</p> <p>2.7.1 Dissolve the sample directly into a suitable solvent (e.g., methanol). If appropriate, extract the sample from an acidic or basic medium (or both if the contents of the sample are still unknown at this time).</p> <p>2.7.2 If sample is an unknown, run appropriate screening systems via two system TLC and/or two system GC.</p> <p>2.7.3 If sample identity was indicated previously, choose the appropriate two system TLC and/or two system GC systems, as needed, with a standard.</p> <p>2.8 Ultraviolet Spectroscopy</p> <p>2.8.1 An ultraviolet scan can be run on extracted samples or directly on the material itself, if it is pure enough and contains no interfering substances. Suggested solutions are 0.1N HCl, 0.2N H₂SO₄, 0.1N NaOH or Ethanol.</p> <p>2.9 Infrared Spectroscopy/Mass Spectrometry</p> <p>2.9.1 If the identity of the sample is still unclear at this point, the IR or GC/MS will provide further information.</p> <p>2.9.2 A definitive structural identification technique such as GC/MS or IR is required to be used on all substances where the identities will be reported.</p> <p>2.10 Further Testing</p> <p>2.10.1 If the sample is still an unknown or other confirmation is needed, the chemist should use any instrumental techniques available (or combinations thereof) to arrive at a sound analytical conclusion about the identities of sample. This may involve using Division Instrument Support or sources of instrumentation and techniques external to the Division such as DEA Special Testing or local Colleges and Universities.</p> <p>2.10.2 Microcrystal tests are most often used for isomer determination only. They are to be used only in combination with a structural elucidation technique.</p> <p style="text-align: right;">♦ End</p>	